

## **REMARKS**

Claims 1-7 are pending and under consideration in the above-identified application.

In the Final Office Action dated July 31, 2008, the Examiner rejected claims 1-7.

With this Amendment, claims 1 and 5 were amended and claim 3 was cancelled. No new matter has been introduced as a result of the amendments.

### **I. Claim Interpretation**

The Examiner stated that the product-by-process limitation in claim 6 is not given patentable weight. Applicant respectfully traverses the Examiner's interpretation.

The structure implied by the process steps should be considered when the process steps impart distinctive characteristics to the final product. See, *In re Garnero*, 412 F.2d 276, 279 (CCPA 1979). The process limitation in claim 6, namely mechanofusion, is a technique for particle-to-particle fusion that generates a mechanical-chemical reaction between two or more materials. Particles that are mechanofused create a new material with different chemical properties. For example, mechanofusion is used to achieve a drug powder that is less susceptible to formation of solid bridges and related instability such as via re-crystallization See Morton U.S. Publication No. 20080063719. Mechanofusion is also used to create a capsulated toner with a core particle that is coated with a second material via mechanofusion. See Yasuhiro et al., U.S. Publication No. 20070259284. Thus, much as an etched material is not the same as an unetched material, even if mechanofusion is considered a product-by-process type limitation, the process step clearly imparts distinctive characteristics to the final product. As such, the mechanofusion in step 6 should be given patentable weight.

**II. 35 U.S.C. § 103 Obviousness Rejection of Claims**

Claims 1 -3 and 5-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Oesten et al. (US 2001/0046628 A1) in view of Spitler et al. (US 2004/0197657). Applicants respectfully traverse this rejection.

Claims 1 and 5 require a coating layer that is adhered to the outer surface of an inner particle. The coating layer is a homogeneous lithium-titanium compound that unlike coatings made of alkali metal compounds and oxides, which are randomly dispersed, has a single phase of polycrystalline spinel. This coating significantly improves the high temperature property of lithium nickel oxide without decreasing lithium ion conductivity. Specification, Page 6. Furthermore, compared to surfaces where the coating consists of a mixture of compound oxides, the homogenous coating layer required by claims 1 and 5 significantly improves conductivity and as a result maintains capacity and cycle durability. Specification, Pages 5 -6, 33-34 & Table 1.

Oesten et al. teaches a lithium mixed oxide particle coated with one or more layers of alkali metals and metal oxides. Oesten et al., Abstract. Oesten et al. specifically teaches the use of layers alkali metals and metal oxides to improve acid stability. Furthermore, the alkali metals and metal oxides coating taught by Oesten et al. is not an effective coating for improving conductivity and maintaining capacity and cycle durability. In light of the fact that the known art has failed to provide a coating layer that significantly improves the high temperature property of lithium nickel oxide without decreasing conductivity of lithium ions, the Examiner is asked to provide proof supporting any assertions that Oesten et al. teaches a coating that improves conductivity and maintains cycle durability. Specification, Page 6.

Although Oesten et al. teaches a weight ratio of the coating metal oxide to the lithium mixed oxide particles, Oesten et al. teaches an effective weight ratio for *improved acid stability*. In contrast, the function of the coating required by the claims is to improve conductivity and maintain capacity and cycle durability. The optimal weight ratio for the coating required by the claims would not have been obvious in light of the weight ratio disclosed by Oesten et al. because the functions of each coating are not the same.

Spitler et al. teaches the use of lithium titanium spinel oxide as the positive material for the cathode of a lithium ion battery. Additionally, Spitler et al. teaches that blending lithium titanate spinel oxide into the active material allows for high charge and discharge rates. Spitler et al., [0017]; [0022]. Spitler et al. does not, however, teach or even fairly suggest using lithium titanium spinel oxide as a coating layer. Furthermore, using lithium titanium spinel oxide as a coating layer would not have been obvious in light of Oesten et al., because Oesten et al. does not teach or even fairly suggest a coating that is capable of improving conductivity and maintaining capacity and cycle durability. As such, it would not have been obvious to one of ordinary skill in the art to substitute a compound that improves conductivity and capacity and cycle durability in a coating layer that functions to improve acid stability.

Thus, taken singularly or in combination with each other, the cited references fail to either teach or even fairly suggest the required elements of independent claims 1 and 5. As such, claims 1 and 5 are patentable over the cited references, as are dependent claims 2, 3 and 4 for at least the same reasons. Accordingly, Applicant respectfully requests the above rejections be withdrawn.

**III. Conclusion**

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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